WHAT IS CLAIMED IS:

1. A terminal device, comprising:

a device driver section for controlling an interface section that is connected to a network;

a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI; and

a middleware section that is interposed between the protocol stack section and the device driver section;

wherein the middleware section includes a sending section that, if a send request for a frame to be sent (hereinafter, referred to as "send frame") is issued from the protocol stack section, determines a send priority of the send request based on header information at layer2 to layer4 of OSI within the send frame, and then outputs the send request to the device driver section according to the send priority determined.

2. A terminal device according to claim 1, wherein the middleware section further includes a receiving section that, if a receive request for a frame to be received (hereinafter, referred to as "receive frame") is issued from the device driver section, determines a receive priority of the receive request based on header information at layer2 to layer4 of OSI within the receive frame, and then outputs the receive request to the protocol stack section according to the receive priority determined.

3. A terminal device according to claim 1, further comprising:

a cache table in which specific session information is registered in advance; and

multiple FIFOs each corresponding to the send priority, wherein the sending section includes:

a header comparison section that, if a send request for a send frame is issued from the protocol stack section, determines a send priority of the send request by searching the cache table based on header information at layer2 to layer4 of OSI within the send frame, and then queues the send request to one of the multiple FIFOs corresponding to the send priority determined; and

a synthesis section that synthesizes send requests outputted from the multiple FIFOs according to the send priority of the one of the multiple FIFOs to which the send request is queued, and then outputs a synthesized send request to the device driver section.

4. A terminal device according to claim 2, further comprising:

a cache table in which specific session information is registered in advance; and

multiple FIFOs each corresponding to the receive priority, wherein the receiving section includes:

a header comparison section that, if a receive request for a receive frame is issued from the device driver section, determines a receive priority of the receive request by searching the cache table based on header information at layer2 to layer4 of OSI within the receive frame, and then queues the receive request to one of the multiple FIFOs corresponding to the receive priority determined; and

a synthesis section that synthesizes receive requests outputted from the multiple FIFOs according to the receive priority

of the one of the multiple FIFOs to which the receive request is queued, and then outputs a synthesized receive request to the protocol stack section.

5. A terminal device, comprising:

a device driver section for controlling an interface section that is connected to a network;

a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI; and

a middleware section that is interposed between the protocol stack section and the device driver section;

wherein the middleware section includes a sending section that:

if a send request to a predetermined destination for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the protocol stack section in advance and if the send request is a first one of consecutive send requests, checks on header information of the specific packet, then registers into the cache table session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet, raises a send priority of the send request, and outputs the send request to the device driver section; and

if the send request is among the consecutive send requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet is registered in the cache table, raises a send priority of the send request, and outputs the send request to the device driver section.

6. A terminal device according to claim 5, wherein the middleware section further includes a receiving section that:

if a receive request from a predetermined source for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the device driver section in advance and if the receive request is a first one of consecutive receive requests, checks on header information of the specific packet, then registers into the cache table session information extracted from headers at layer2 to layer4 of OSI within a receive frame carrying the specific packet, raises a receive priority of the receive request, and outputs the receive request to the protocol stack section; and

if the receive request is among the consecutive receive requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a receive frame carrying the specific packet is registered in the cache table, raises a receive priority of the receive request, and outputs the receive request to the protocol stack section.

7. A terminal device according to claim 5, wherein the middleware section further includes a monitor section that:

if the session information is registered into the cache table, monitors the cache table; and

if the send request for a send frame carrying the session information is not issued from the protocol stack section within a predetermined time, delete the session information within the cache table.

8. A terminal device according to claim 6, wherein the

middleware section further includes a monitor section that:

if the session information is registered into the cache table, monitors the cache table; and

if the receive request for a receive frame carrying the session information is not issued from the device driver section within a predetermined time, delete the session information within the cache table.

9. A terminal device, comprising:

a device driver section for controlling an interface section that is connected to a network;

a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI;

a middleware section that is interposed between the protocol stack section and the device driver section;

a first cache table in which a first session information is previously registered;

a second cache table that is used upon establishment of a session;

a first FIFO section for storing high-priority send data in a FIFO format; and

a second FIFO section for storing low-priority send data in a FIFO format,

wherein the middleware section includes:

a first checking means for, if a send request for a send frame is issued from the protocol stack section, checking whether a second session information that is extracted from headers at layer2 to layer4 of OSI within the send frame is registered in the second cache table;

a first queueing means for, if the first checking means determines that the second session information is registered, queueing the send request to the first FIFO section;

a second checking means for, if the first checking means determines that the second session information is not registered, checking whether the second session information is registered in the first cache table;

a third checking means for, if the second checking means determines that the second session information is registered, checking whether the send frame includes a predetermined specific packet at higher than or equal to layer5 of OSI;

a second queueing means for, if the third checking means determines that the send frame includes the predetermined specific packet, judging that a high-priority session is established, registering the second session information into the second cache table, and queueing the send request to the first FIFO section;

a third queueing means for, if the second checking means determines that the second session information is not registered, queueing the send request to the second FIFO section; and

send-requesting means for outputting to the device driver section the send request queued to the first FIFO section prior to the send request queued to the second FIFO section.

10. A terminal device according to claim 9, comprising:

a third FIFO section for storing high-priority receive data in a FIFO format; and

a fourth FIFO section for storing low-priority receive data in a FIFO format,

wherein the middleware section includes:

a fourth checking means for, if a receive request for a receive frame is issued from the device driver section, checking whether a third session information that is extracted from headers at layer2 to layer4 of OSI within the receive frame is registered in the second cache table;

a fourth queueing means for, if the fourth checking means determines that the third session information is registered, queueing the receive request to the third FIFO section;

a fifth checking means for, if the fourth checking means determines that the third session information is not registered, checking whether the third session information is registered in the first cache table;

a sixth checking means for, if the fifth checking means determines that the third session information is registered, checking whether the receive frame includes a specific packet;

a fifth queueing means for, if the sixth checking means determines that the receive frame includes the specific packet, judging that a high-priority session is established, registering the third session information into the second cache table, and queueing the receive request to the third FIFO section;

a sixth queueing means for, if the fifth checking means determines that the third session information is not registered, queueing the receive request to the fourth FIFO section; and

receive-requesting means for outputting to the protocol stack section the receive request queued to the third FIFO section prior to the receive request queued to the fourth FIFO section.

11. A terminal device according to claim 9, wherein the

middleware section further includes monitor means for:

if the second session information is registered into the second cache table, monitoring the second cache table; and

if the send request for a send frame carrying the second session information is not issued from the protocol stack section within a predetermined time, deleting the second session information within the second cache table.

12. A terminal device according to claim 10, wherein the middleware section further includes monitor means for:

if the third session information is registered into the second cache table, monitoring the second cache table; and

if the receive request for a receive frame carrying the third session information is not issued from the device driver section within a predetermined time, deleting the third session information within the second cache table.

13. A terminal device according to claim 1, wherein the middleware section further includes means for, if the send request is sent to the device driver section, sending the send request via a program interface with respect to the protocol stack section.

14. A terminal device according to claim 2, wherein the middleware section further includes means for, if the receive request is received from the device driver section, receiving the receive request via a program interface with respect to the protocol stack section.

15. A terminal device according to claim 5, wherein the specific packet is a packet defined by a communication protocol

at higher than or equal to layer5 of OSI, which includes an RTP packet.

16. A terminal device according to claim 3, wherein the session information includes a MAC address corresponding to layer2 of OSI, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

17. A terminal device according to claim 9, wherein the first session information and the second session information include a MAC address corresponding to layer2 of OSI, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

18. A terminal device according to claim 10, wherein the third session information includes a MAC address corresponding to layer2 of OSI, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

19. A terminal device according to claim 13, wherein the program interface includes a NDIS interface.

20. A terminal device according to claim 13, wherein the program interface includes a socket interface.

21. A method for processing communication data inside a terminal device that includes: a device driver section for controlling an interface section that is connected to a network; and a protocol stack section that is connected to the network via

the device driver section based on a communication protocol at higher than or equal to layer3 of OSI, the method comprising:

if a send request for a send frame is issued from the protocol stack section, determining a send priority of the send request based on header information at layer2 to layer4 of OSI within the send frame; and

outputting the send request to the device driver section according to the send priority determined.

22. A method for processing communication data inside a terminal device according to claim 21, comprising:

if a receive request for a receive frame is issued from the device driver section, determining a receive priority of the receive request based on respective header information at layer2 to layer4 of OSI within the receive frame; and

outputting the receive request to the protocol stack section according to the receive priority determined.

23. A method for processing communication data inside a terminal device according to claim 21, further comprising:

if a send request for the send frame is issued from the protocol stack section, determining a send priority of the send request by searching a cache table in which high-priority session information is previously registered based on respective header information at layer2 to layer4 of OSI within the send frame;

queueing the send request to one of the multiple FIFOs each corresponding to the send priority according to the send priority determined; and

synthesizing send requests outputted from the multiple FIFOs according to the send priority of the one of the multiple FIFOs

to which the send request is queued, and outputting a synthesized send request to the device driver section.

24. A method for processing communication data inside a terminal device according to claim 22, further comprising:

if a receive request for the receive frame is issued from the device driver section, determining a receive priority of the receive request by searching a cache table in which high-priority session information is previously registered based on respective header information at layer2 to layer4 of OSI within the receive frame;

queueing the receive request to one of the multiple FIFOs each corresponding to the receive priority according to the receive priority determined; and

synthesizing receive requests outputted from the multiple FIFOs according to the receive priority of the one of the multiple FIFOs to which the receive request is queued, and outputting a synthesized receive request to the protocol stack section.

25. A method for processing communication data inside a terminal device that includes: a device driver section for controlling an interface section that is connected to a network; and a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI, the method comprising:

if a send request to a predetermined destination for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the protocol stack section in advance and if the send request is a first one of consecutive send requests, checking on header information of the specific

packet, then registering into a cache table session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet, raising a send priority of the send request, and outputting the send request to the device driver section; and

if the send request is among the consecutive send requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet is registered in the cache table, raising a send priority of the send request, and outputting the send request to the device driver section.

26. A method for processing communication data inside a terminal device according to claim 25, further comprising:

if a receive request from a predetermined source for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the device driver section in advance and if the receive request is a first one of consecutive receive requests, checking on header information of the specific packet, then registering into a cache table session information extracted from headers at layer2 to layer4 of OSI within a receive frame carrying the specific packet, raising a receive priority of the receive request, and outputting the receive request to the protocol stack section; and

if the receive request is among the consecutive receive requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a receive frame carrying the specific packet is registered in the cache table, raising a receive priority of the receive request, and outputting the receive request to the protocol stack section.

27. A method for processing communication data inside a terminal device according to claim 25, further comprising:

if the session information is registered into the cache table, monitoring the cache table; and

if the send request for a send frame carrying the session information is not issued from the protocol stack section within a predetermined time, deleting the session information within the cache table.

28. A method for processing communication data inside a terminal device according to claim 26, further comprising:

if the session information is registered into the cache table, monitoring the cache table; and

if the receive request for a receive frame carrying the session information is not issued from the device driver section within a predetermined time, deleting the session information within the cache table.

29. A method for processing communication data inside a terminal device that includes: a device driver section for controlling an interface section that is connected to a network; and a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI, the method comprising:

if a send request for a send frame is issued from the protocol stack section, checking whether a first session information that is extracted from headers at layer2 to layer4 of OSI within the send frame is registered in a second cache table that is used upon establishment of a session;

if the first session information is registered in the second cache table, queueing the send request to a first FIFO section for storing high-priority send data in a FIFO format;

if the first session information is not registered in the second cache table, checking whether the first session information is registered in a first cache table in which a second session information is previously registered;

if the first session information is registered in the first cache table, checking whether the send frame includes a predetermined specific packet at higher than or equal to layer5 of OSI;

if the send frame includes the predetermined specific packet, judging that a high-priority session is established, registering the first session information into the second cache table, and queueing the send request to the first FIFO section;

if the first session information is not registered in the first cache table, queueing the send request to a second FIFO section for storing low-priority send data in a FIFO format; and

outputting to the device driver section the send request queued to the first FIFO section prior to the send request queued to the second FIFO section.

30. A method for processing communication data inside a terminal device according to claim 29, further comprising:

if a receive request for a receive frame is issued from the device driver section, checking whether a third session information that is extracted from headers at layer2 to layer4 of OSI within the receive frame is registered in a second cache table;

if the third session information is registered in the second cache table, queueing the receive request to a third FIFO section

for storing high-priority receive data in a FIFO format;

if the third session information is not registered in the second cache table, checking whether the third session information is registered in a first cache table;

if the third session information is registered in the first cache table, checking whether the receive frame includes a specific packet;

if the receive frame includes the specific packet, judging that a high-priority receive session is established, registering the third session information into the second cache table, and queueing the receive request to the third FIFO section;

if the third session information is not registered in the first cache table, queueing the receive request to a fourth FIFO section for storing low-priority receive data in a FIFO format; and

outputting to the protocol stack section the receive request queued to the third FIFO section prior to the receive request queued to the fourth FIFO section.

31. A method for processing communication data inside a terminal device according to claim 29, further comprising:

if the first session information is registered into the second cache table, monitoring the second cache table; and

if the send request for a send frame carrying the first session information is not issued from the protocol stack section within a predetermined time, deleting the first session information within the second cache table.

32. A method for processing communication data inside a terminal device according to claim 30, further comprising:

if the third session information is registered into the second cache table, monitoring the second cache table; and

if the receive request for a receive frame carrying the third session information is not issued from the device driver section within a predetermined time, deleting the third session information within the second cache table.

33. A method for processing communication data inside a terminal device according to claim 21, further comprising, if the send request is issued to the device driver section, issuing the send request via a program interface with respect to the protocol stack section.

34. A method for processing communication data inside a terminal device according to claim 22, further comprising, if the receive request is received from the device driver section, receiving the receive request via a program interface with respect to the protocol stack section.

35. A method for processing communication data inside a terminal device according to claim 25, wherein the specific packet is a packet defined by a communication protocol at higher than or equal to layer5 of OSI, which includes an RTP packet.

36. A method for processing communication data inside a terminal device according to claim 23, wherein the session information includes a MAC address corresponding to layer2 of OSI within a frame, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

37. A method for processing communication data inside a terminal device according to claim 29, wherein the first and the second session information includes a MAC address corresponding to layer2 of OSI within a frame, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

38. A method for processing communication data inside a terminal device according to claim 30, wherein the third session information includes a MAC address corresponding to layer2 of OSI within a frame, a protocol number and an IP address corresponding to layer3 of OSI, and a port number corresponding to layer4 of OSI.

39. A method for processing communication data inside a terminal device according to claim 33, wherein the program interface includes a NDIS interface.

40. A method for processing communication data inside a terminal device according to claim 33, wherein the program interface includes a socket interface.

41. A program capable of being executed by a computer that includes: a device driver section for controlling an interface section that is connected to a network; and a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI, the program comprising:

a process for, if a send request to a predetermined

destination for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the protocol stack section in advance and if the send request is a first one of consecutive send requests, checking on header information of the specific packet, then registering into a cache table session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet, raising a send priority of the send request, and outputting the send request to the device driver section; and

a process for, if the send request is among the consecutive send requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a send frame carrying the specific packet is registered in the cache table, raising a send priority of the send request, and outputting the send request to the device driver section.

42. A program according to claim 41 comprising:

a process for, if a receive request from a predetermined source for a specific packet defined by a communication protocol at higher than or equal to layer5 of OSI is issued from the device driver section in advance and if the receive request is a first one of consecutive receive requests, checking on header information of the specific packet, then registering into a cache table session information extracted from headers at layer2 to layer4 of OSI within a receive frame carrying the specific packet, raising a receive priority of the receive request, and outputting the receive request to the protocol stack section; and

a process for, if the receive request is among the consecutive receive requests other than the first one and if session information extracted from headers at layer2 to layer4 of OSI within a receive

frame carrying the specific packet is registered in the cache table, raising a receive priority of the receive request, and outputting the receive request to the protocol stack section.

43. A program according to claim 41, comprising:

a process for, if the session information is registered into the cache table, monitoring the cache table; and

a process for, if the send request for a send frame carrying the session information is not issued from the protocol stack section within a predetermined time, deleting the session information within the cache table.

44. A program according to claim 42, comprising:

a process for, if the session information is registered into the cache table, monitoring the cache table; and

a process for, if the receive request for a receive frame carrying the session information is not issued from the device driver section within a predetermined time, deleting the session information within the cache table.

45. A program capable of being executed by a computer that includes: a device driver section for controlling an interface section that is connected to a network; a protocol stack section that is connected to the network via the device driver section based on a communication protocol at higher than or equal to layer3 of OSI; a first cache table in which a first session information is previously registered; a second cache table that is used upon establishment of a session; a first FIFO section for storing high-priority send data in a FIFO format; and a second FIFO section for storing low-priority send data in a FIFO format, the program

comprising:

a process for, if a send request for a send frame is issued from the protocol stack section, checking whether a second session information that is extracted from respective headers at layer2 to layer4 of OSI within the send frame is registered in the second cache table;

if the second session information is registered in the second cache table, queueing the send request to the first FIFO section;

a process for, if the second session information is not registered in the second cache table, checking whether the second session information is registered in the first cache table;

a process for, if the second session information is registered in the first cache table, checking whether the send frame includes a predetermined specific packet at higher than or equal to layer5 of OSI;

a process for, if the send frame includes the predetermined specific packet, judging that a high-priority session is established, registering the second session information into the second cache table, and queueing the send request to the first FIFO section;

a process for, if the second session information is not registered in the first cache table, queueing the send request to the second FIFO section; and

a process for outputting to the device driver section the send request queued to the first FIFO section prior to the send request queued to the second FIFO section.

46. A program according to claim 45, comprising:

a process for, if a receive request for a receive frame is issued from the device driver section, checking whether a third

session information that is extracted from respective headers at layer2 to layer4 of OSI within the receive frame is registered in the second cache table;

if the third session information is registered in the second cache table, queueing the receive request to the third FIFO section for storing high-priority receive data in a FIFO format;

a process for, if the third session information is not registered in the second cache table, checking whether the third session information is registered in the first cache table;

a process for, if the third session information is registered in the first cache table, checking whether the receive frame includes a specific packet;

a process for, if the receive frame includes the predetermined specific packet, judging that a high-priority session is established, registering the third session information into the second cache table, and queueing the receive request to the third FIFO section;

a process for, if the third session information is not registered in the first cache table, queueing the receive request to the fourth FIFO section for storing low-priority send data in a FIFO format; and

a process for outputting to the protocol stack section the receive request queued to the third FIFO section prior to the receive request queued to the fourth FIFO section.

47. A program according to claim 45, comprising:

a process for, if the second session information is registered into the second cache table, monitoring the second cache table; and

a process for, if the send request for a send frame carrying

the second session information is not issued from the protocol stack section within a predetermined time, deleting the second session information within the second cache table.

48. A program according to claim 46, comprising:

a process for, if the third session information is registered into the second cache table, monitoring the second cache table; and

a process for, if the receive request for a receive frame carrying the third session information is not issued from the device driver section within a predetermined time, deleting the third session information within the second cache table.

49. A program according to claim 41, comprising:

a process for, if the send request is sent to the device driver section, outputting the send request via a program interface with respect to the protocol stack section.

50. A program according to claim 42, comprising:

a process for, if the receive request is received from the device driver section, receiving the receive request via a program interface with respect to the protocol stack section.